

**REMARKS**

Please reconsider the present application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application and indicating that claims 4-6, 16-19, 21, and 22 contain allowable subject matter.

**Disposition of Claims**

Claims 1, 3-6, 8, 9, 11-13, and 15-22 were pending in this application. By way of this reply, claims 8, 9, and 11 have been canceled without prejudice or disclaimer. Thus, claims 1, 3-6, 12-13, and 15-22 are now pending in this application. Of these, claims 1, 4-5, 8, 9, 16-19, and 21 are independent. The remaining claims depend, directly or indirectly, from claim 1 or 21.

**Claim Amendments**

By way of this reply, claim 1 has been amended to clarify the claimed invention. Support for the amendments may be found in, *e.g.*, paragraphs [0066]-[0067] and Fig. 4 of the published application. Also, claims 4-5 and 16-19 have been amended into independent form including all of the limitations of the base claim and any intervening claims. Also, claim 13 has been amended to correct antecedent basis. Also, claims 8, 9, and 11 have been canceled without prejudice or disclaimer. No new matter has been added in these amendments.

**Rejection(s) under 35 U.S.C. § 112**

Claim 13 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. Specifically, the Examiner states the term “the metal fine particle” recited in claim 13 lacks antecedent basis. As discussed above, by way of this reply, claim 13 has been amended to correct the antecedent basis. Accordingly, withdrawal of this rejection is respectfully requested.

### **Rejection under 35 U.S.C. § 102**

Claims 1, 3, 12, 13, 15, and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,331,276 (“Takei”). As discussed above, by way of this reply, independent claim 1 has been amended to clarify the claimed invention. Thus, to the extent that this rejection may apply to the amended claims, the rejection is respectfully traversed for the reasons set forth below.

One or more embodiments of the claimed invention are directed to a localized plasmon resonance sensor, capable of obtaining information related with interaction of biomolecules such as protein and DNA. Referring to the specification and figures as an example, in one or more embodiments of the claimed invention, a localized plasmon resonance sensor 34 includes a transparent substrate 32 on the substrate 32, a prism 36 arranged on the side of the substrate 32 not formed with the metal layer. A light emitting module including a light source 37 is arranged opposite to a surface attached to the metal layer. The light source 37 enters the light to the interface of the metal layer and the substrate 32 from a surface of the substrate 32 opposite to a surface attached to the metal layer. A sensor unit 34 measures the intensity of the light reflected at

the interface of the metal layer and the substrate 32 (See, e.g., paragraphs [0066]-[0067] and Fig. 4 of the published application).

Accordingly, independent claim 1, as amended, includes, in part, “*a light emitting module configured facing a back surface of the transparent substrate, such that a light emitted by the light emitting module reaches the metal layer passing through the transparent substrate.*” At least, partly due to the above-structural features, in the claimed invention, influence of the change in the index of refraction at the liquid solution part can be reduced in detection of the reflected light.

Takei fails to show or suggest at least these limitations. Instead, Takei discloses a plasmon resonance sensor in which a light passes through a sample fluid and reflects on the surfaces of a metal film 41 arranged on a transparent film 40 (See, e.g., Figs. 1 and 9 of Takei). In the Office Action, the Examiner attempts to equate the transparent film 40 of Takei with the transparent substrate of the claimed invention. Applicant respectfully disagrees.

In Takei, in contrast to the claimed invention, the light never enters from the surface of the thin film opposite to the surface contacted by the metal film. Instead, Takei’s device is structurally designed to receive light only from the metal film side, which is inherently different from the structural feature of “*a light emitting module configured facing a back surface of the transparent substrate, such that a light emitted by the light emitting module reaches the metal layer passing through the transparent substrate,*” as is now required by the claim. In fact, in Takei’s device, the dominant part of the light necessarily passes through the liquid solution before reflecting

on the metal film surface. Thus, unlike the claimed invention, influence of the change in the index of refraction at the liquid solution part can never be reduced in detection of the reflected light.

In view of the above, independent claim 1, as amended, is patentable over Takei, because Takei fails to show or suggest all of the limitations of the claim. By virtue of their dependence, claims 3, 12, 13, 15, and 20 are also allowable for at least the same reasons as amended claim 1. Accordingly, withdrawal of the rejection is respectfully requested.

### **Double Patenting**

Claims 1, 3, 12, 13, 15, and 20 are provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1, 5, and 8 of co-pending Application No. 11/589,044. Also, claims 1, 3, 12, 13, 15, and 20 are provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-26 of co-pending Application No. 12/042,910. An appropriate terminal disclaimers are filed herewith. Accordingly, this rejection is now moot.

### **Allowable Subject Matter**

Claims 4-6, 16-19, 21, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if written in independent form including all of the limitations of the base claim and any intervening claims. As discussed above, claims 4-5 and 16-19 have been amended into independent form including all of the limitations of the base claim and any intervening claims. Claim 6 depends upon claim 5. Also, Applicant notes that claim 21 is

independent, and claim 22 is dependent from claim 21. Accordingly, this objection is now moot and, thus, claims 4-6, 16-19, and 21-22 are placed in condition for allowance.

### **Conclusion**

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 15115/244001).

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Respectfully submitted,

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